

Claims

1. A method of determining responsiveness of a network device in a network including a plurality of interconnected network devices, the method comprising the steps of:
5 when a first network device loses contact with a second network device, the first network device requesting that a proxy network device contact the second network device and report back to the first network device whether the requested contact is successful.
2. The method as recited in claim 1, wherein the proxy network device contacts the
10 second network device along a second path, different from a first path used by the first network device to the second network device.
3. The method as recited in claim 1, wherein the proxy network device uses a second
15 communications protocol to contact the second network device, different from a first communications protocol used by the first network device.
4. The method as recited in claim 1, wherein the proxy network device is on a same
 logical subset of the network as the second network device.
- 20 5. The method as recited in claim 1, wherein the requesting step includes selecting from a list of potential proxy network devices at least one selected proxy network device to contact the second network device.
- 25 6. The method as recited in claim 1, wherein the first network device requests that a plurality of proxy network devices contact the second network device.
7. The method as recited in claim 6, wherein the plurality of proxy network devices attempt, in series, to contact the second network device.
- 30 8. The method as recited in claim 6, wherein the plurality of proxy network devices attempt, in parallel, to contact the second network device.

9. The method as recited in claim 1, wherein the proxy network device is a neighbor of the second network device.

10. The method as recited in claim 1, further comprising the step of:
analyzing the report from the proxy network device to determine a type of fault associated with the second network device.

11. The method as recited in claim 1, further comprising the step of:
determining an operative status of the second network device from a loss of contact with the second network device.

12. The method recited in claim 1, wherein the first network device is a network management system.

13. The method recited in claim 5, wherein the selecting step comprises selecting a proxy network device which has previously successfully contacted the second network device.

14. The method recited in claim 5, wherein the selecting step comprises selecting a proxy network device which has previously successfully contacted a neighbor of the second network device.

15. The method recited in claim 5, wherein the selecting step comprises selecting a proxy network device which has previously successfully contacted another network device.

16. The method as recited in claim 5, wherein the selecting step is based on at least one of the following parameters:

- a) a communication path from the proxy network device to the second network device is different from a communication path from the first network device to the second network device;
- b) a communication protocol of the proxy network device is different from a communication protocol of the first network device;

- c) the proxy network device is in a same logical subset of the network as the second network device; and
- d) a total number of proxy network devices in the list is not greater than a predetermined number.

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17. A method for registering a proxy network device in a computer network including a plurality of interconnected network devices, the method comprising the steps of:

determining whether each network device can function as a proxy network device;

and

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maintaining a list of proxy network devices.

18. Apparatus for determining the responsiveness of a network device in a network of interconnected network devices, the apparatus comprising:

means for maintaining a list of proxy network devices; and

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means for selecting at least one proxy network device from the list of network devices when a first network device cannot establish contact with a second network device.

19. The apparatus of claim 18, further comprising:

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means for requesting that the at least one selected proxy network device contact the second network device and report back to the first network whether the requested contact is successful.

20. The apparatus of claim 19, further comprising:

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means for analyzing the report from the at least one proxy network device to determine a type of fault associated with the second network device.